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# **CITY OF JACKSON GENERAL PLAN**

## **NOISE ELEMENT UPDATE**

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UNIVERSITY OF CALIFORNIA

**FEBRUARY, 1987**

ADOPTED FEBRUARY 23, 1987  
RESOLUTION NO. 87-12

- (1) Highways and freeways.
- (2) Primary arterials and major local streets.
- (3) Passenger and freight on-line railroad operations and ground rapid transit systems.
- (4) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.
- (5) Local industrial plants, including, but not limited to, railroad classification yards.
- (6) Other ground stationary noise sources identified by local agencies as contributing to the community noise environment.

Noise contours shall be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average level (Ldn). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified in paragraphs (1) to (6), inclusive.

The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards.

According to the State of California General Plan Guidelines, the noise element is the most specific in content and method of preparation.\* This is due in part to the stringent requirements set forth in the law. It is also because of the input that the noise element policies and proposals could have in land use distribution.

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\*California Governor's Office of Planning and Research, State of California General Plan Guidelines, (Sacramento, 1980), p. 124.



**Ldn:** Day-Night Average Level. The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

**Lmax:** The maximum A-weighted noise level recorded during a noise event.

**L(n):** The sound pressure level in decibels which is exceeded n% of the time during a given sample period. For example, L10 is the level exceeded 10% of the time. L(n) values are statistical descriptors of variation in the noise environment. The L10, L50 and L90 are commonly used for this purpose.

**Noise Exposure Contours:** Lines drawn about a noise source indicating constant energy levels of noise exposure. CNEL and Ldn are the metrics used most often to describe community exposure to noise.

**Single Event Noise Exposure Level (SENEL):** The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the level of the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on the reference pressure of 20 micropascals and a reference duration of one second. Also described as Sound Exposure Level (SEL).

**NOTE:** CNEL and Ldn represent daily levels of noise exposure averaged on an annual basis, while Leq represents the equivalent energy exposure for a shorter time period, typically one hour.

## **B. Sources of Noise in Jackson**

Major noise sources include households, construction equipment, vehicles, ground stationary sources from American Forest Products (AFP), and from air traffic at Westover Field. The discussion on household noise is limited due to limits on control the City has over such noise. Construction equipment is discussed since it can be controlled, although its transient nature makes it less of a long term intrusion. Vehicular noise is of concern, particularly as it relates to State Highways 49 and 88. AFP is a potential noise generator; however, indications are that noise impacts due to AFP operations are insignificant



## 2. Construction Noise

Because construction noises are transient, there has not been a concerted effort to reduce the noise levels of the equipment involved. As the City expands and as the older areas are renewed and rehabilitated, the noise from construction will be more noticeable. The following table lists the types and noise levels of equipment used during the different phases of construction.

TABLE 2

NOISIEST EQUIPMENT TYPES OPERATING  
AT CONSTRUCTION SITES\*

	Construction Type		
	Domestic Housing	Office Buildings	Public Works
Ground Clearing Excavation	Truck (91)	Truck (91)	Truck (91)
	Scraper (88)	Scraper (88)	Scraper (88)
	Rock Drill (98)	Rock Drill (98)	Rock Drill (98)
Foundations	Truck (91)	Truck (91)	Truck (91)
	Concrete	Concrete	Concrete
	Mixer (85)	Mixer (85)	Mixer (85)
Erection	Pneumatic Tool (85)	Pneumatic Tool (85)	Pneumatic Tool (85)
	Concrete	Derrick	Paver (89)
	Mixer (85)	Crane (88)	
Finishing	Pneumatic Tool (85)	Jack Hammer (88)	Scraper (88)
	Rock Drill (98)	Rock Drill (98)	Truck (91)
	Truck (91)	Truck (91)	Paver (89)

\*Numbers in parentheses represent typical dB(A) levels at 50 feet.

Source: Environmental Protection Agency, Bolt, Beranek and Newman, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, (1971), p. 27.

The 1986 reports prepared for this area indicate that current aircraft noise is at acceptable levels for development. However, future increases in airport usage will increase noise levels. Appropriate construction features and noise insulation standards will have to be met in order to offset such increases.

Another measure to address noise concerns at an early stage of development is the County's formation of the "Airport Land Use Commission Permit Referral Boundary". Projects proposed within the boundary will be referred to the ALUC for early review and comment. To the extent that the City of Jackson is affected by this process, appropriate input will be solicited from the ALUC by the City.





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